INSTALLATION-GENERAL
REU-VR2632FFUG / VRM2632FFUC

AC weatherproof external earthed power point is required within 1500 mm of the appliance.

The appliance weighs approx. 21kg, depending on the wall on which it is to be mounted must be capable of supporting it and associated pipework. Ensure that suitable fixing screws or bolts are used to secure the appliance to the wall. Bracket and fixing hole locations are shown overleaf.

The top bracket has a keyhole slot so that the appliance can be positioned by hanging it on one screw, then the other screws can be secured. After determining the most suitable position, fix the appliance to the wall.

Connect hot and cold water and gas pipes. Approved valves MUST BE FITTED to both the cold water inlet and the gas inlet.
In areas where the water pressure is over 1000 kPa, a pressure limiting valve must also be fitted. Both connections are R3/4(20A). Locations are shown overleaf.

The appliance range can use up to 195MJ/h of gas.

IF THE GAS PIPE SIZE IS INSUFFICIENT, THE CUSTOMER WILL NOT GET THE FULL PERFORMANCE BENEFIT. An approved isolation valve MUST BE FITTED to the gas inlet. Connection size is R3/4(20A). This is **NOT** an indication of the size of pipe required. Check the data plate for gas inlet.

This appliance is not suitable for use as a pool heater.

Never connect an earth wire to gas supply line.

This appliance is for **INDOOR** use.

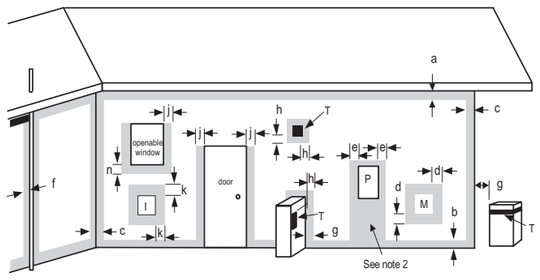
POSITIONING

This internal model is an internally mounted, power flued appliance.
IT MUST ONLY BE FITTED INSIDE THE BUILDING.

When determining a suitable position for the appliance, the length of hot water pipe runs should be taken into consideration. In principle, the appliance should be as close as possible to the most often used taps, or in a central location between taps, showers etc.

See diagram overleaf for position of gas, water and power connections.

The location of the flue terminal must comply with the clearances shown in the following diagram.



T = Flue terminal
I = Mechanical air inlet
M = Gas meter
P = Electricity meter or fuse box
Shading indicates prohibited areas for flue terminals

Ref.	Item	Min. clearances (mm)
		Fan assisted
a	Below eaves, balconies and other projections:	
	· Appliances over 50 MJ/h input	300
b	From the ground, above a balcony or other surface †	300
c	From a return wall or external corner †	300
d	From a gas meter (M)	1000
e	From an electricity meter or fuse box (P)	500
f	From a drain pipe or soil pipe	75
g	Horizontally from any building structure † or obstruction facing a terminal	500
h	From any other flue terminal, cowl, or combustion air intake †	300
j	Horizontally from an openable window, door, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation:	
	· Appliances up to 200 MJ/h input	300
	· Appliances over 200 MJ/h input up to 250 MJ/h input †	500
	· Appliances over 250 MJ/h input †	1500
	· All fan-assisted flue appliances, in the direction of discharge	1500
k	From a mechanical air inlet, including a spa blower	1000
n	Vertically below an openable window, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation:	
	· Space heaters up to 50 MJ/h input	150
	· Other appliances up to 50 MJ/h input	500
	· Appliances over 50 MJ/h input and up to 150 MJ/h input	1000
	· Appliances over 150 MJ/h input	1500

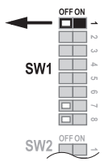
† Unless appliance is certified for closer installation

note 1. All distance are measured to the nearest part of the terminal.
note 2. Prohibited Area below electricity meter or fuse box extends to ground level.

COAXIAL FLUEING FOR INTERNAL MODELS

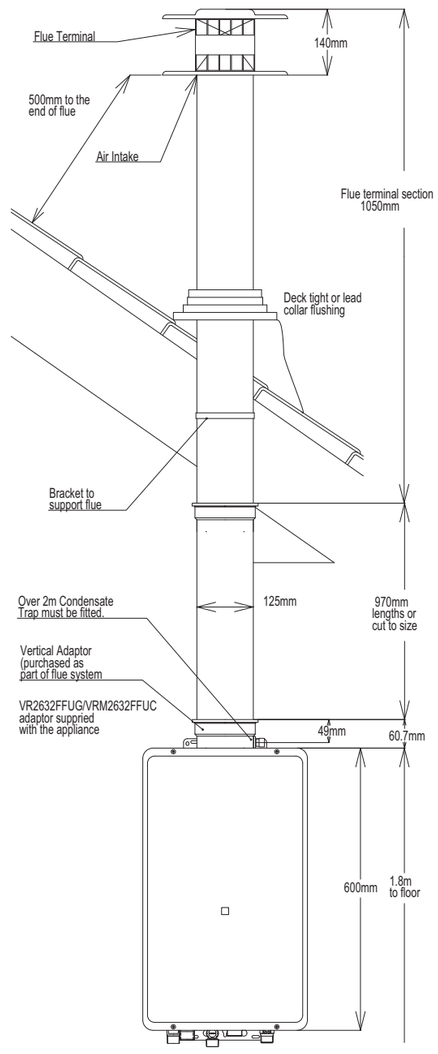
Rinnai internal models descrided in this manual must use the coaxial Rinnai FF flue components. The use of non Rinnai FF flue components may result in a dangerous situation and violates regulations. It can be installed to a maximum length of 9 metres and with a maximum of three 90º bends.

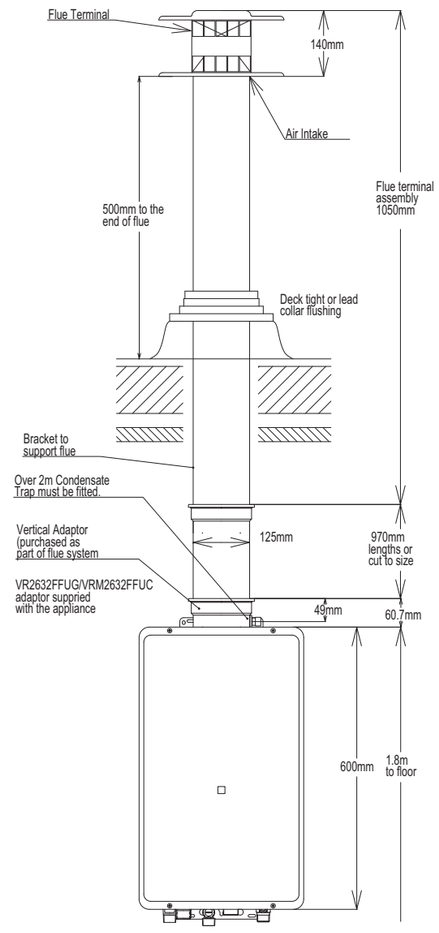
If flue length exceeds 1.5m, dipswitch 1 of SW1 is to be switched to the 'OFF' position as shown.



If flue length exceeds 2m, connect a drain pipe in accordance with the FF flueing instructions. It must be supplied by the installer.

VENT TERMINATION





TESTING AND COMMISSIONING

1. Before final connection of the water heater purge gas, hot water and cold water supply lines. Swarf in either the gas or water supplies may cause damage.
2. Turn on gas and cold water supplies.
3. Test for water leaks and gas escapes near the unit.
4. Isolate gas supply. Remove test point screw located on the gas inlet connection and attach pressure gauge.
5. Turn the power 'on' at the power point socket and turn on gas.
6. Open all available hot water taps. (**CAUTION:** Ensure building occupants do not have access to hot water outlets during this procedure.)
7. Operate ALL other gas appliances at their maximum gas rate, in accordance with manufacturers instructions.
8. With all gas appliances in operation at maximum gas rate, check the inlet gas pressure. If the pressure is lower, the gas supply is inadequate and the appliance will not operate to specification. It is the Installers responsibility to check the gas meter, service regulator and pipe work for correct operation/sizing and rectify as required. **Note** that the gas regulator on the appliance is electronically controlled and factory pre-set. Under normal circumstances it **DOES NOT** need adjustment during installation.
9. Close hot water taps including the shower.
10. Inspect and clean the strainer located on the cold water inlet connection. This procedure may need to be repeated to ensure the strainer remains clear, especially on new installations.
11. Confirm the hot water delivery temperature using a thermometer. This appliance is factory preset to 60C. Take precautions against scald.
12. After testing is completed, explain to the householder the functions and operation of the water heater.

INSTALLATION-GENERAL
REMOTE CONTROLLER

REMOTE CONTROLLER

Name	Kitchen	Bathroom 1	Bathroom 2	Bathroom 3
VR2632FFUG	MC-91-2A* or MC-100V-1A	MC-91-2A* or BC-100V-1A	MC-91-2A* or BC-100V-1A	MC-91-2A*
VRM2632FFUC	Not Available			

* When a MC-91-2A Temperature Controller is used for this application the installer may set this unit as kitchen controller.
• Note: For details on how to program the MC-91-2A remote control see Appendix 1. MC-91-2A CONTROLLER PROGRAMMING.

POSITIONING OF CONTROLLERS

Controllers must be installed in shaded and clean locations. They should be fitted out of reach of children (suggested height from floor at least 1500mm). Controllers are water resistant, however, durability is improved when positioned outside the shower recess or at least 400mm above the highest part of a sink, basin or bath.

DO NOT INSTALL THE CONTROLLERS:

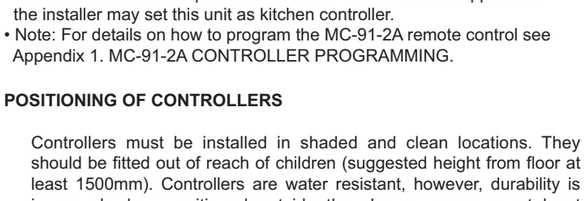
- NEAR A HEAT SOURCE, SUCH AS A COOK TOP, STOVE OR OVEN. HEAT, STEAM, SMOKE AND HOT OIL MAY CAUSE DAMAGE.
- IN DIRECT SUNLIGHT.
- OUTDOORS UNLESS AN ENCLOSURE IS PROVIDED WHICH PROTECTS THE CONTROLLER AGAINST SUNLIGHT AND DUST INGRESS.

REMOTE CONTROL CABLES

Remote controls operate at extra low voltage (12 Volts DC) which is supplied from the appliance. Controllers are supplied with 15m of electrical cable. The cable wires for connection to the appliance are fitted with spade terminals. Extension cables are available from Rinnai. Alternatively, a two core sheathed (double insulated) flex with minimum cross-sectional area of 0.5mm² can be used. Maximum cable length is 50 m.

To connect up two cables to the 'Ezi connect' cable connector

1. Remove the power plug of the water heater from the electric power socket.
2. Remove the retaining screw Ⓐ
3. Swing the 'Ezi connect' cable connector door open and thread the cable through the weather seal of the cable access hole Ⓑ in the direction shown allowing sufficient cable length so that the sheath of the cable can be secured with cable clamp Ⓒ supplied with the transceiver.
4. Loosen screw terminals Ⓓ and Ⓔ and connect the cable spade connectors to these terminals and re-tighten. Polarity is not important, either wire colour can be connected to either terminal.
5. Return the 'Ezi connect' cable connector to the original position taking care not to damage cable wires in the process and replace the retaining screw Ⓐ.

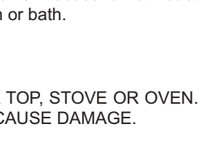


Connecting Three or Four Controllers

Repeat steps 1, 2 and 3 above.

To connect three or four cables, separate all the cables to be fitted into pairs. Cut off the existing spade connectors from each pair and re-terminate each pair into a new spade connector (available from your local electrical component retailer) Ⓕ so that there are only two sets of spade connectors (4 spade connectors in total) to be terminated.

Repeat steps 4 and 5 above.



FITTING THE 'UNIVERSAL' CONTROLLER (MC-91-2A)

1. Determine the most suitable position for the remote controller.
2. Drill 3 holes in the wall, as shown in fig.1, one for the cable and two for the securing screws. Ensure holes are drilled. Fit wall plugs if required.
3. Run the cable through the hole in the wall - ensuring that the end fitted with the connector is near the controller. (fig.2)
4. Remove face plate from the remote control, using a flat-blade screw driver. (fig.3)
5. Connect the cable to the remote controller.
6. Fix the controller to the wall and fasten with Philip's head screws as shown in fig.4.
7. Remove the protective plastic film from the controller face as shown in fig.4.
8. Replace face plate.

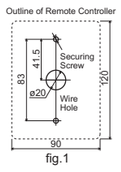


fig.1

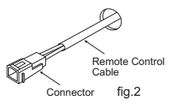


fig.2

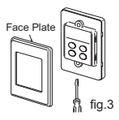


fig.3

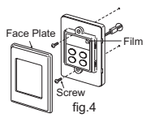


fig.4

Note: For details on how to program the MC-91-2A remote control see Appendix 1. MC-91-2A CONTROLLER PROGRAMMING.

FITTING THE 'DELUXE KITCHEN' CONTROLLER (MC-100V-1A)

1. Determine the most suitable position for the controller.
2. Use the wall mounting bracket as a template to drill 3 holes, locating the cable access as shown in Fig. 1.
3. Fix the mounting bracket to the wall using the appropriate fixings.
4. Run the cable through the hole in the wall.
5. Carefully remove face plate from the remote controller, using a flat-blade screw driver (Fig. 2).
6. Connect the cable to the controller as shown in Fig 3. At this point cables from other controllers (if fitted) may also be connected to the screw terminals of the Kitchen water controller (Fig. 4) eliminating the need for multiple cable runs directly to the water heater.
7. Fasten the controller to the wall mounting bracket as shown in Fig. 5.

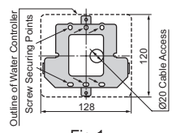


Fig.1

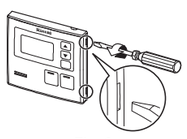


Fig. 2

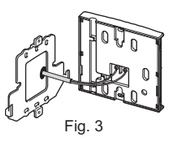


Fig. 3

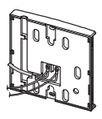


Fig. 4

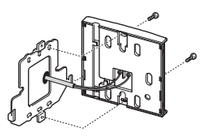


Fig. 5

FITTING THE 'DELUXE BATHROOM' CONTROLLER (BC-100V-1A)

1. Determine the most suitable position for the controller.
2. Drill 3 holes, locating the cable access as shown in Fig. 1.
3. Run the cable through the hole in the wall-ensuring that the end fitted with the conector is near the controller (Fig. 2).
4. Affix the double sided self-adhesive seal to the back of the controller (Fig. 3).
5. Carefully remove the face plate from the controller, do this by placing your thumbs on the front of the digital display and while hooking your fingers behind top of plate and gently push as shown in Fig. 4.
6. Connect the cable to the water controller.
7. Fix the controller to the wall using the appropriate fixings as shown in Fig. 5.

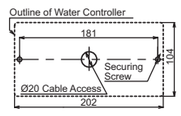


Fig. 1

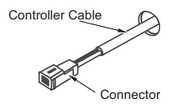


Fig. 2

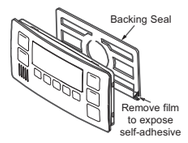


Fig. 3

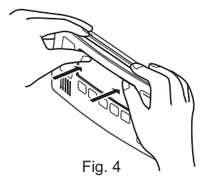


Fig. 4

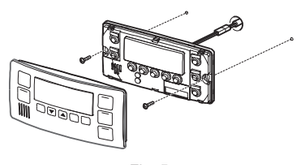


Fig. 5

Appendix 1. MC-91-2A CONTROLLER PROGRAMMING

STEP 1:

For the controller in the KITCHEN only, press and hold the 'Transfer' and 'On/Off' buttons simultaneously (see fig.1) until a 'beep' is heard (approximately 5 seconds).

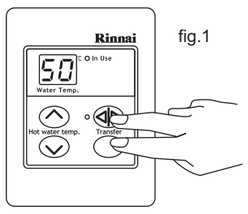


fig.1

STEP 2:

Check that the display on ALL controllers is lit and displaying a temperature when 'switched on'. If any ONE of the controller displays two dashes (see fig.2) in the display repeat STEP 1.

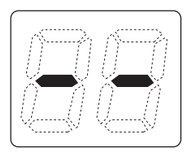


fig.2

Note:

- If the kitchen controller is replaced, repeat STEP 1 above for the replacement controller.
- If the kitchen controller is swapped with another controller (for example, the controller fitted in a bathroom), repeat STEP 1 for the controller moved from the kitchen to the bathroom. Then perform STEP 1 for the controller moved from the bathroom to the kitchen.

REU-VR2632FFUG / VRM2632FFUC

GAS PRESSURE SETTING

WARNING

DURING PRESSURE TESTING OF THE CONSUMER PIPING ENSURE GAS COCK SITUATED BEFORE UNIT IS SHUT-OFF.

FAILURE TO DO SO MAY RESULT IN SERIOUS DAMAGE TO THE APPLIANCE AND POSSIBLE INJURY.

The regulator on the Infinity is electronically controlled and factory pre-set. Under normal circumstances it does not require adjustment during installation. Perform this procedure only if the unit is not operating correctly and all other possible causes for incorrect operation have been eliminated.

1. Turn 'OFF' the gas supply.
2. Turn 'OFF' power supply.
3. Remove the front cover from the appliance.
4. Check gas type switches (fig. 1) are in the correct position (No.1 switch of Dip.SW2 'ON' = NG, 'OFF' = LPG).

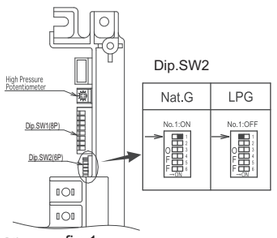


fig.1

Note: 'ON' towards front, 'OFF' towards rear.

5. Attach pressure gauge to burner test point, located on the gas control. (fig. 2)
6. Turn 'ON' the gas supply.
7. Turn 'ON' power supply.
8. If remote controllers are fitted, turn the unit 'ON' at the kitchen controller, select the maximum delivery temperature and open a hot water tap fully. (**CAUTION:** Ensure building occupants do not have access to hot water outlets during this procedure.)
9. Set the appliance to 'Forced Low' combustion by setting No. 7 switch of the Dip.SW1 set of dip switches to 'ON'. (fig. 3)
10. Check the burner test point pressure.
11. Remove rubber access plug and adjust the regulator screw on the modulating valve (fig. 4) as required to the pressure. (Table 1) Replace rubber access plug.
12. Set the appliance to 'Forced High' combustion by setting both No. 7 and No. 8 switches of the bottom Dip.SW1 set to 'ON'. (fig. 5) Ensure maximum water flow.
13. Check the burner test point pressure.
14. Adjust the high pressure Potentiometer (POT) on the Printed Circuit Board (PCB) as required to the pressure shown Table 2.

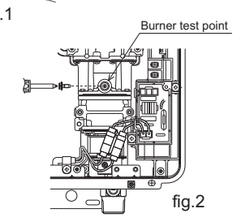


fig.2

fig.3

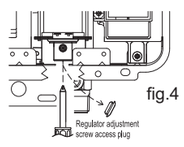


fig.4

Pressure Setting LOW

NG	0.18kPa
LPG	0.24kPa

Table. 1

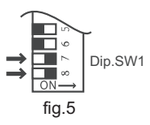


fig.5

Pressure Setting HIGH

NG	0.94kPa
LPG	1.11kPa

Table. 2

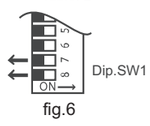
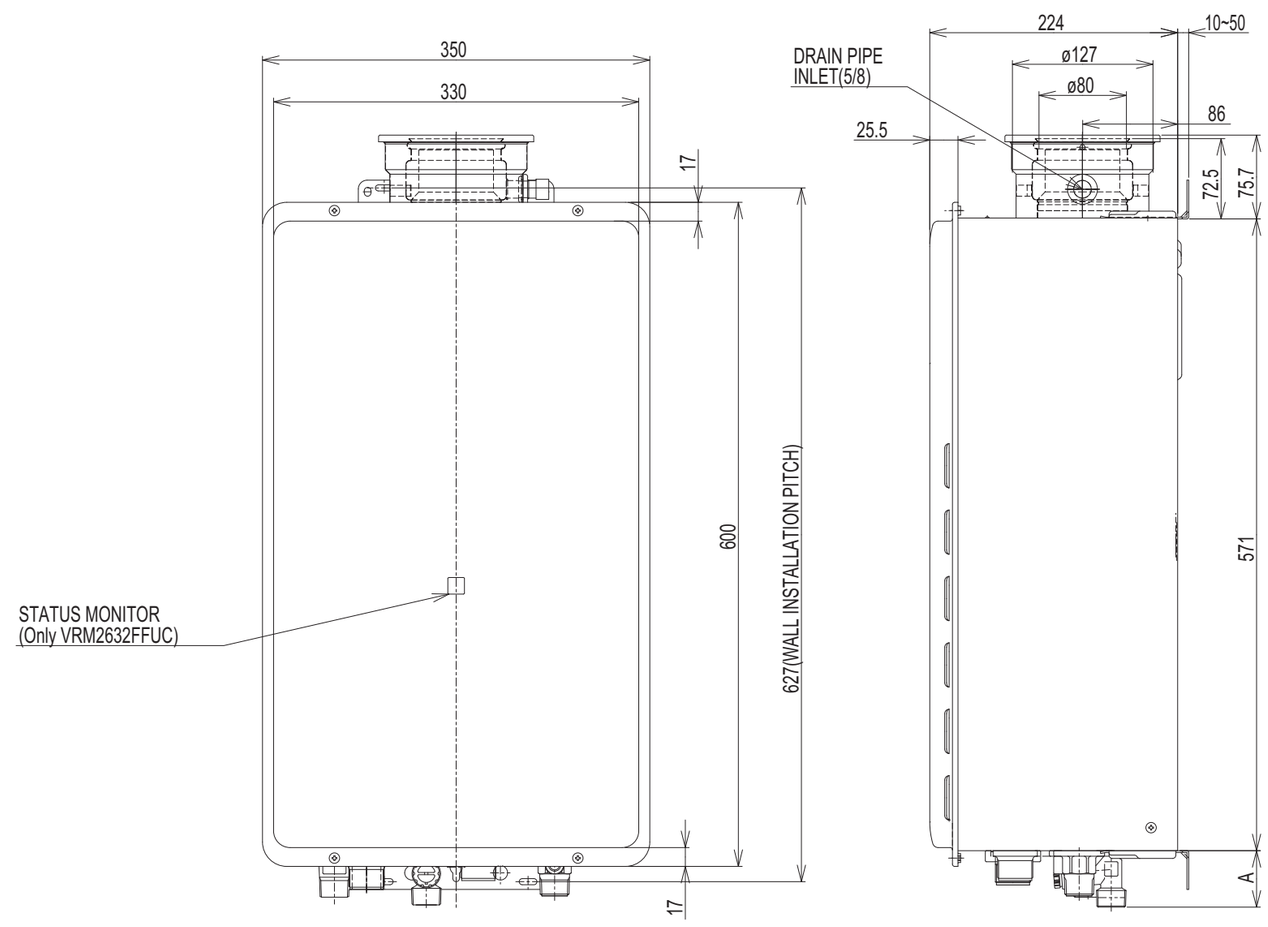
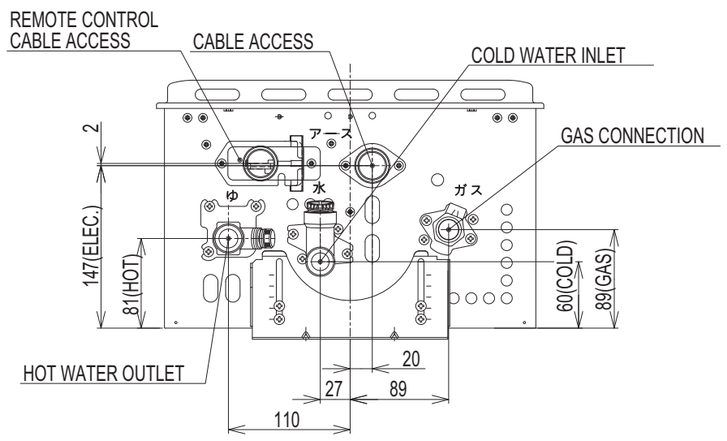


fig.6

15. **IMPORTANT:** Set No. 7 and 8 switches on the bottom (Dip.SW1) set of switches to 'OFF' to return the appliance to 'Normal' combustion. (fig. 6)
16. Close hot water tap.
17. Turn OFF the gas supply and power supply.
18. Remove pressure gauge, and replace sealing screw.
19. Turn 'ON' the gas supply and power supply.
20. Operate unit and check for gas leaks at test point.
21. Replace the front cover of the appliance.

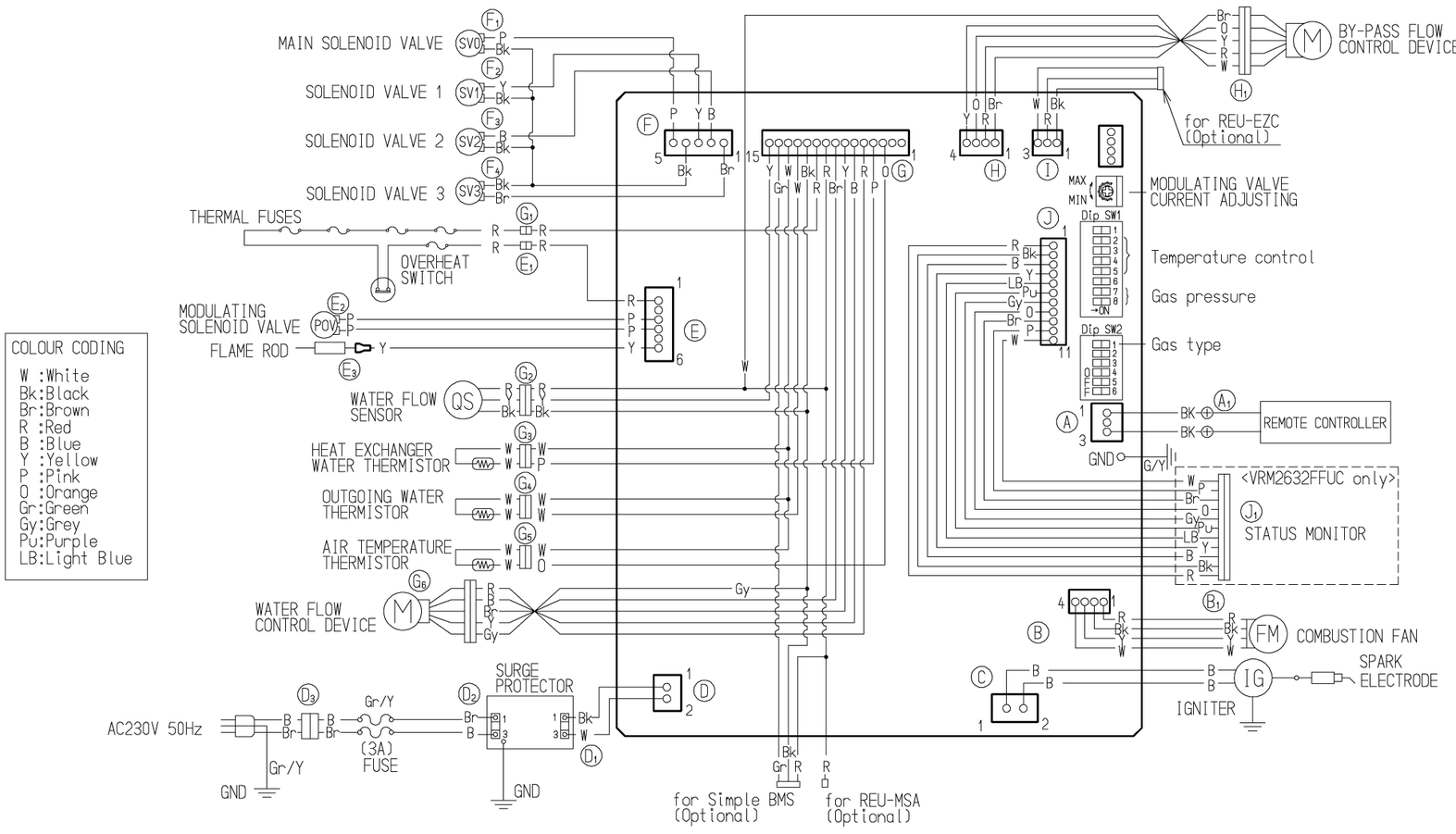
DIMENSIONS





	A DEMENSION
GAS	41
COLD	51
HOT	42
CABLE ACCESS	27
REMOTE CONTROL CABLE ACCESS	31

WIRING DIAGRAM



DIAGNOSTIC POINTS

FLOW CHART No.	COMPONENT	MEASUREMENT POINT CN	MEASUREMENT POINT WIRE COLOUR	NORMAL VALUE	A NOTE
①	SURGE PROTECTOR	D_1	W-Bk	AC207~264V	
② ⑰	WATER FLOW CONTROL DEVICE	G_6	R-B	DC11~13V	OPERATE ELECTRICITY
			Gy-O	DC11~13V	CONTROL ELECTRICITY
			Gy-Y	BELOW DC1V(LIMITER ON)	FULL OPEN POSITION
				DC4~6V(LIMITER OFF)	
			Gy-Br	BELOW DC1V(LIMITER ON)	FULL CLOSE POSITION
				DC4~6V(LIMITER OFF)	
③	BY-PASS FLOW CONTROL DEVICE	H_1	Br-W O-W Y-W R-W GND	DC12V(OPERATING DC2~6V)	
				15~35 Ω	
④	REMOTE CONTROL	A_1	Bk-Bk	DC11~13V	
⑤	WATER FLOW SENSOR	G_2	R-Bk	DC11~13V	
			Y-Bk GND	DC4~7V(PULSE 17~460Hz)	
⑥	COMBUSTION FAN	B_1	R-Bk	DC6~45V	
			Y-Bk	DC11~13V	
			W-Bk GND	DC6~45V (33~400Hz)	
⑦	FLAME ROD	E_3	Y-BODY EARTH	AC5~150V	AFTER IGNITION
			Y-FLAME ROD	OVER DC1 μA	FLAME CONDITION
⑧	MODULATING VALVE	E_2	P-P	DC2~15V 67~81 Ω	
⑨	OUTGOING THERMISTOR	G_4	W-W	15°C… 11.4~14.0kΩ 30°C… 6.4~ 7.8kΩ 45°C… 3.6~ 4.5kΩ 60°C… 2.2~ 2.7kΩ 105°C… 0.6~ 0.8kΩ	
⑩	HEAT EXCHANGER OUTGOING THERMISTOR	G_3	W-W		
⑪	AIR TEMPERATURE THERMISTOR	G_5	W-W		
⑫	THERMAL FUSE	G_1 E_1	R-R	BELOW 1 Ω	
⑬	IGNITER	C	B-B	AC207~264V	
⑭	MAIN SOLENOID VALVE	F_1	P-Bk	DC11~13V 37~43 Ω	
⑮	SOLENOID VALVE 1	F_2	Y-Bk	DC11~13V 37~43 Ω	
⑯	SOLENOID VALVE 2	F_3	B-Bk	DC11~13V 37~43 Ω	
⑰	SOLENOID VALVE 3	F_4	Br-Bk	DC11~13V 35~41 Ω	

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